#### $\Rightarrow$ d 112 bib abs 1-26

L12 ANSWER 1 OF 26 USPATFULL on STN
AN 2004:273678 USPATFULL
TI Reactions on a solid surface
TN Neri Bruce P Madison WI III

IN Neri, Bruce P., Madison, WI, UNITED STATES Hall, Jeff G., Madison, WI, UNITED STATES Lyamichev, Victor, Madison, WI, UNITED STATES Smith, Lloyd M., Madison, WI, UNITED STATES

PI US 2004214174 A1 20041028

AI US 2002-309584 A1 20021204 (10)

RLI Continuation-in-part of Ser. No. US 2000-732622, filed on 8 Dec 2000, PENDING Continuation-in-part of Ser. No. US 1999-350309, filed on 9 Jul 1999, GRANTED, Pat. No. US 6348314 Division of Ser. No. US 1996-756386, filed on 26 Nov 1996, GRANTED, Pat. No. US 5985557 Continuation-in-part of Ser. No. US 2000-381212, filed on 8 Feb 2000, PENDING A 371 of International Ser. No. WO 1998-US5809, filed on 24 Mar 1998, PENDING

PRAI WO 1997-US1072 19970122

DT Utility

ECL

DRWN

LN.CNT 3758

FS APPLICATION

LREP Mary Ann D. Brow, MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, 94105

CLMN Number of Claims: 79
ECL Exemplary Claim: 1
DRWN 205 Drawing Page(s)
LN.CNT 22093

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to compositions and methods for the detection and characterization of nucleic acid sequences and variations in nucleic acid sequences. The present invention relates to methods for forming a nucleic acid cleavage structure on a solid support and cleaving the nucleic acid cleavage structure in a site-specific manner. For example, in some embodiments, a 5' nuclease activity from any of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

# CAS INDEXING IS AVAILABLE FOR THIS PATENT.

Exemplary Claim: 1

0 Drawing Figure(s); 37 Drawing Page(s)

L12 ANSWER 2 OF 26 USPATFULL on STN 2004:167995 USPATFULL AN Enzymes for the detection of specific nucleic acid sequences TΙ Ma, Wu-Po, Madison, WI, United States IN Lyamichev, Victor I., Madison, WI, United States Kaiser, Michael W., Madison, WI, United States Lyamicheva, Natalie E., Madison, WI, United States Allawi, Hatim Taysir, Madison, WI, United States Schaefer, James J., Madison, WI, United States Neri, Bruce P., Madison, WI, United States Third Wave Technologies, Inc., Madison, WI, United States (U.S. PA corporation) 20040706 PΙ US 6759226 В1 US 2000-577304 20000524 (9) ΑI DT Utility FS GRANTED EXNAM Primary Examiner: Patterson, Jr., Charles L. LREP Medlen & Carroll, LLP CLMN Number of Claims: 21

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel enzymes designed for direct detection, characterization and quantitation of nucleic acids, particularly RNA. The present invention provides enzymes that recognize specific nucleic acid cleavage structures formed on a target RNA sequence and that cleave the nucleic acid cleavage structure in a site-specific manner to produce non-target cleavage products. The present invention provides enzymes having an improved ability to specifically cleave a DNA member of a complex comprising DNA and RNA nucleic acid strands.

#### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 3 OF 26 USPATFULL on STN 2004:94730 USPATFULL AN ΤI Methods and compositions for detecting target sequences Lyamichev, Victor, Madison, WI, UNITED STATES IN Neri, Bruce P., Madison, WI, UNITED STATES Hall, Jeff, Madison, WI, UNITED STATES Lukowiak, Andrew, Stoughton, WI, UNITED STATES US 2004072182 20040415 PΙ Α1 ΑI US 2003-356861 Α1 20030203 (10) Continuation-in-part of Ser. No. US 2002-290386, filed on 7 Nov 2002, RLI PENDING Continuation-in-part of Ser. No. US 2000-713601, filed on 15 Nov 2000, PENDING Continuation-in-part of Ser. No. US 1999-350309, filed on 9 Jul 1999, GRANTED, Pat. No. US 6348314 Division of Ser. No. US 1996-756386, filed on 26 Nov 1996, GRANTED, Pat. No. US 5985557 WO 1998-US5809 19980324 PRAI WO 1997-US1072 19970122 US 2001-344946P 20011107 (60) US 2002-361060P 20020227 (60) DT Utility FS APPLICATION David A. Casimir, MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, LREP San Francisco, CA, 94105 CLMN Number of Claims: 24 ECL Exemplary Claim: 1 DRWN 172 Drawing Page(s) LN.CNT 16736 CAS INDEXING IS AVAILABLE FOR THIS PATENT. The present invention relates to compositions and methods for the

detection and characterization of nucleic acid sequences and variations in nucleic acid sequences. The present invention relates to methods for forming a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. For example, in some embodiments, a 5' nuclease activity from any of a

variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 4 OF 26 USPATFULL on STN AN 2004:65888 USPATFULL

TI Detection of nucleic acid sequences by invader-directed cleavage

IN Brow, Mary Ann D., Madison, WI, United States
Hall, Jeff Steven Grotelueschen, Madison, WI, United States
Lyamichev, Victor, Madison, WI, United States
Olive, David Michael, Madison, WI, United States
Prudent, James Robert, Madison, WI, United States

PA Third Wave Technologies, Inc., Madison, WI, United States (U.S. corporation)

PI US 6706471 B1 20040316 AI US 1999-333145 19990614 (9)

RLI Continuation of Ser. No. US 1996-682853, filed on 12 Jul 1996, now patented, Pat. No. US 6001567 Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, now patented, Pat. No. US 5846717

DT Utility FS GRANTED

EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Souaya, Jehanne

LREP Medlen & Carroll, LLP CLMN Number of Claims: 26 ECL Exemplary Claim: 12

DRWN 111 Drawing Figure(s); 82 Drawing Page(s)

LN.CNT 7676

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to methods for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to methods for forming a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. The 5' nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof. The present invention further relates to methods and devices for the separation of nucleic acid molecules based by charge.

#### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 5 OF 26 USPATFULL on STN

AN 2004:24650 USPATFULL

TI Detection of RNA

IN Ma, WuPo, Madison, WI, UNITED STATES
Lyamichev, Victor, Madison, WI, UNITED STATES
Kaiser, Michael, Madison, WI, UNITED STATES
Lyamichieva, Natalie E., Madison, WI, UNITED STATES
Allawi, Hatin Taysir, Madison, WI, UNITED STATES
Lukowiak, Andrew A., Madison, WI, UNITED STATES
Schaefer, James J., Madison, WI, UNITED STATES
Lukowiak, Andrew A., Madison, WI, UNITED STATES

PI US 2004018489 A1 20040129 AI US 2001-864426 A1 20010524 (9)

RLI Continuation—in—part of Ser. No. US 2000—577304, filed on 24 May 2000, PENDING Continuation—in—part of Ser. No. US 1999—350309, filed on 9 Jul 1999, GRANTED, Pat. No. US 6348314 Continuation—in—part of Ser. No. US 1991—756386, filed on 9 Sep 1991, GRANTED, Pat. No. US 337472 Continuation—in—part of Ser. No. US 1995—381212, filed on 31 Jan 1995, GRANTED, Pat. No. US 5608651 Continuation—in—part of Ser. No. US 1997—823516, filed on 24 Mar 1997, GRANTED, Pat. No. US 5994069 Continuation—in—part of Ser. No. US 1996—759038, filed on 2 Dec 1996, GRANTED, Pat. No. US 6090543 Continuation—in—part of Ser. No. US 1996—682853, filed on 12 Jul 1996, GRANTED, Pat. No. US 6001567 Continuation—in—part of Ser. No. US 1996—599491, filed on 24 Jan 1996, GRANTED, Pat. No. US 5846717 Continuation—in—part of Ser. No. US 2000—381212, filed on 8 Feb 2000, PENDING Continuation—in—part of Ser. No. US 6635463

PRAI WO 1997-US1072 19970121

DT Utility

FS APPLICATION

LREP MEDLEN & CARROLL, LLP, 101 HOWARD STREET, SUITE 350, SAN FRANCISCO, CA, 94105

CLMN Number of Claims: 8 ECL Exemplary Claim: 1 DRWN 145 Drawing Page(s) LN.CNT 10762

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention provides novel cleavage agents and polymerases for the cleavage and modification of nucleic acid. The cleavage agents and polymerases find use, for example, for the detection and characterization of nucleic acid sequences and variations in nucleic acid sequences. In some embodiments, the 5' nuclease activity of a variety of enzymes is used to cleave a target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 6 OF 26 USPATFULL on STN

AN 2004:4400 USPATFULL

TI Methods and compositions for characterizing nucleic acids

IN Dahlberg, James E., Madison, WI, United States Brow, Mary Ann D., Madison, WI, United States Lyamichev, Victor I., Madison, WI, United States

PA Third Wave Technologies, Inc., Madison, WI, United States (U.S.

corporation)

PI US 6673616 B1 20040106

AI US 2000-655378 20000905 (9)

Continuation of Ser. No. US 1995-520946, filed on 30 Aug 1995, now RLI patented, Pat. No. US 6372424 Continuation-in-part of Ser. No. US 1995-484956, filed on 7 Jun 1995, now patented, Pat. No. US 5843654, issued on 1 Dec 1998 Continuation-in-part of Ser. No. US 1995-402601, filed on 9 Mar 1995, now abandoned Continuation of Ser. No. US 1997-802233, filed on 19 Feb 1997, now patented, Pat. No. US 5888780, issued on 30 Mar 1997 Continuation-in-part of Ser. No. US 1994-337164, filed on 9 Nov 1994 Continuation of Ser. No. US 1997-789079, filed on 6 Feb 1997, now patented, Pat. No. US 5719028, issued on 17 Feb 1998 Continuation-in-part of Ser. No. US 1994-254359, filed on 6 Jun 1994, now patented, Pat. No. US 5614402, issued on 25 Mar 1997 Continuation-in-part of Ser. No. US 1993-73384, filed on 4 Jun 1993, now patented, Pat. No. US 5541311, issued on 30 Jun 1996 Continuation-in-part of Ser. No. US 1992-986330, filed on 7 Dec 1992, now abandoned

DT Utility

FS GRANTED

EXNAM Primary Examiner: Yucel, Remy; Assistant Examiner: Sandals, William

LREP Medlen & Carroll, LLP CLMN Number of Claims: 20 ECL Exemplary Claim: 1

DRWN 151 Drawing Figure(s); 124 Drawing Page(s)

LN.CNT 13610

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to means for cleaving a nucleic acid cleavage structure in a site-specific manner. Enzymes, including 5' nucleases and 3' exonucleases, are used to detect and identify nucleic acids derived from microorganisms. Methods are provided which allow for the detection and identification of bacterial and viral pathogens in a sample.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 7 OF 26 USPATFULL on STN

AN 2003:265223 USPATFULL

TI RNA detection assays

IN Allawi, Hatim, Madison, WI, UNITED STATES
Argue, Brad T., Sun Prairie, WI, UNITED STATES
Bartholomay, Christian Tor, Madison, WI, UNITED STATES

Chehak, LuAnne, Janesville, WI, UNITED STATES Curtis, Michelle L., Cottage Grove, WI, UNITED STATES Eis, Peggy S., Madison, WI, UNITED STATES Hall, Jeff G., Madison, WI, UNITED STATES Ip, Hon S., Madison, WI, UNITED STATES Ji, Lin, Madison, WI, UNITED STATES Kaiser, Michael, Madison, WI, UNITED STATES Kwiatkowski, Robert W., JR., Verona, WI, UNITED STATES Lukowiak, Andrew A., Stoughton, WI, UNITED STATES Lyamichev, Victor, Madison, WI, UNITED STATES Lymaicheva, Natalie E., Madison, WI, UNITED STATES Ma, WuPo, Madison, WI, UNITED STATES Neri, Bruce P., Madison, WI, UNITED STATES Olson, Sarah M., Cross Plains, WI, UNITED STATES Olson-Munoz, Marilyn C., Madison, WI, UNITED STATES Schaefer, James J., Madison, WI, UNITED STATES Skrzypczynski, Zbigniev, Verona, WI, UNITED STATES Takova, Tsetska Y., Madison, WI, UNITED STATES Thompson, Lisa C., Madison, WI, UNITED STATES Vedvik, Kevin L., Madison, WI, UNITED STATES

PI US 2003186238 A1 20031002

AI US 2002-84839 A1 20020226 (10)

RLI Continuation-in-part of Ser. No. US 2001-864636, filed on 24 May 2001, PENDING Continuation-in-part of Ser. No. US 2000-577304, filed on 24 May 2000, PENDING Continuation-in-part of Ser. No. US 1999-350309, filed on 9 Jul 1999, GRANTED, Pat. No. US 6348314 Continuation-in-part of Ser. No. US 1991-756386, filed on 9 Sep 1991, GRANTED, Pat. No. US 337472 Continuation-in-part of Ser. No. US 1995-381212, filed on 31 Jan 1995, GRANTED, Pat. No. US 5608651 Continuation-in-part of Ser. No. US 1997-823516, filed on 24 Mar 1997, GRANTED, Pat. No. US 5994069 Continuation-in-part of Ser. No. US 1996-759038, filed on 2 Dec 1996, GRANTED, Pat. No. US 6090543 Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, GRANTED, Pat. No. US 6001567 Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, GRANTED, Pat. No. US 5846717 Continuation-in-part of Ser. No. US 2001-758282, filed on 11 Jan 2001, PENDING

PRAI WO 1997-US1072 19970121

DT Utility

FS APPLICATION

LREP Mary Ann D. Brow, MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, 94105

CLMN Number of Claims: 57

ECL Exemplary Claim: 1

DRWN 194 Drawing Page(s)

LN.CNT 12043

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention provides novel cleavage agents and polymerases for the cleavage and modification of nucleic acid. The cleavage agents and polymerases find use, for example, for the detection and characterization of nucleic acid sequences and variations in nucleic acid sequences. In some embodiments, the 5' nuclease activity of a variety of enzymes is used to cleave a target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

#### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 8 OF 26 USPATFULL on STN

AN 2003:219681 USPATFULL

TI Methods and compositions for detecting target sequences

IN Lyamichev, Victor, Madison, WI, UNITED STATES
Neri, Bruce P., Madison, WI, UNITED STATES

Hall, Jeff, Madison, WI, UNITED STATES Lukowiak, Andrew A., Stoughton, WI, UNITED STATES PΙ US 2003152971 Α1 20030814 ΑI US 2002-290386 Α1 20021107 (10) Continuation-in-part of Ser. No. US 2000-713601, filed on 15 Nov 2000, RLI PENDING Continuation-in-part of Ser. No. US 1999-350309, filed on 9 Jul 1999, GRANTED, Pat. No. US 6348314 Division of Ser. No. US 1996-756386, filed on 26 Nov 1996, GRANTED, Pat. No. US 5985557 PRAI WO 1998-US5809 19980324 WO 1997-US1072 19970122 US 2001-344946P 20011107 (60) US 2002-361060P 20020227 (60) DTUtility FS APPLICATION MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, LREP Number of Claims: 53 CLMN Exemplary Claim: 1 ECL DRWN 170 Drawing Page(s) LN.CNT 16700 CAS INDEXING IS AVAILABLE FOR THIS PATENT. The present invention relates to compositions and methods for the detection and characterization of nucleic acid sequences and variations in nucleic acid sequences. The present invention relates to methods for forming a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. For example, in some embodiments, a 5' nuclease activity from any of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof. CAS INDEXING IS AVAILABLE FOR THIS PATENT. ANSWER 9 OF 26 USPATFULL on STN L12AN2003:194538 USPATFULL TI Enzymes for the detection of nucleic acid sequences IN Ma, Wu-Po, Madison, WI, UNITED STATES Lyamichev, Victor I., Madison, WI, UNITED STATES Kaiser, Michael W., Madison, WI, UNITED STATES Lyamicheva, Natalie E., Madison, WI, UNITED STATES Allawi, Hatim Taysir, Madison, WI, UNITED STATES Schaefer, James J., Madison, WI, UNITED STATES Neri, Bruce P., Madison, WI, UNITED STATES PA Third Wave Technologies, Inc. (U.S. corporation) PΙ US 2003134349 Α1 20030717 US 6635463 B2 20031021 ΑI US 2001-758282 A1 20010111 (9) RLI Continuation-in-part of Ser. No. US 2000-577304, filed on 24 May 2000, PENDING DΤ Utility FS APPLICATION MEDLEN & CARROLL, LLP, 101 HOWARD STREET, SUITE 350, SAN FRANCISCO, CA, LREP Number of Claims: 6 CLMN ECL Exemplary Claim: 1 39 Drawing Page(s) DRWN LN.CNT 3956 CAS INDEXING IS AVAILABLE FOR THIS PATENT. AΒ The present invention relates to novel enzymes designed for direct

detection, characterization and quantitation of nucleic acids,

specific nucleic acid cleavage structures formed on a target

particularly RNA. The present invention provides enzymes that recognize

RNA sequence and that cleave the nucleic acid cleavage structure in a site-specific manner to produce non-target cleavage products. The present invention provides enzymes having an improved ability to specifically cleave a DNA member of a complex comprising DNA and RNA nucleic acid strands.

#### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 10 OF 26 USPATFULL on STN

AN 2003:159260 USPATFULL

TI Systems for the detection of target sequences

IN Dahlberg, James E., Madison, WI, UNITED STATES
Brow, Mary Ann D., Madison, WI, UNITED STATES
Lyamichev, Victor I., Madison, WI, UNITED STATES

PI US 2003108873 A1 20030612

AI US 2001-941193 A1 20010828 (9)

Division of Ser. No. US 2000-655378, filed on 5 Sep 2000, PENDING Continuation of Ser. No. US 1995-520946, filed on 30 Aug 1995, GRANTED, Pat. No. US 6372424 Continuation-in-part of Ser. No. US 1995-484956, filed on 7 Jun 1995, GRANTED, Pat. No. US 5843654 Continuation-in-part of Ser. No. US 1995-402601, filed on 9 Mar 1995, ABANDONED Continuation-in-part of Ser. No. US 1997-802233, filed on 19 Feb 1997, GRANTED, Pat. No. US 5888780 Continuation-in-part of Ser. No. US 1994-337164, filed on 9 Nov 1994, ABANDONED Continuation-in-part of Ser. No. US 1997-789079, filed on 6 Feb 1997, GRANTED, Pat. No. US 5719028 Continuation-in-part of Ser. No. US 1994-254359, filed on 6 Jun 1994, GRANTED, Pat. No. US 5614402 Continuation-in-part of Ser. No. US 1993-73384, filed on 4 Jun 1993, GRANTED, Pat. No. US 5541311 Continuation-in-part of Ser. No. US 1992-986330, filed on 7 Dec 1992, GRANTED, Pat. No. US 5422253

DT Utility

FS APPLICATION

LREP MEDLEN & CARROLL, LLP, 101 HOWARD STREET, SUITE 350, SAN FRANCISCO, CA, 94105

CLMN Number of Claims: 14

ECL Exemplary Claim: 95

DRWN 124 Drawing Page(s)

LN.CNT 4386

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to means for cleaving a nucleic acid cleavage structure in a site-specific manner. Enzymes, including 5' nucleases and 3' exonucleases, are used to detect and identify nucleic acids derived from microorganisms. Methods are provided which allow for the detection and identification of bacterial and viral pathogens in a sample.

## CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 11 OF 26 USPATFULL on STN

AN 2003:152712 USPATFULL

TI Detection of RNA

IN Allawi, Hatim, Madison, WI, UNITED STATES
Bartholomay, Christian Tor, Madison, WI, UNITED STATES
Chehak, LuAnne, Janesville, WI, UNITED STATES
Curtis, Michelle L., Cottage Grove, WI, UNITED STATES
Eis, Peggy S., Madison, WI, UNITED STATES
Hall, Jeff G., Madison, WI, UNITED STATES
Ip, Hon S., Madison, WI, UNITED STATES
Kaiser, Michael, Madison, WI, UNITED STATES
Kwiatkowski, Robert W., JR., Verona, WI, UNITED STATES
Lukowiak, Andrew A., Madison, WI, UNITED STATES
Lyamichev, Victor, Madison, WI, UNITED STATES

Ma, WuPo, Madison, WI, UNITED STATES
Olson-Munoz, Marilyn C., Madison, WI, UNITED STATES
Olson, Sarah M., Cross Plains, WI, UNITED STATES
Schaefer, James J., Madison, WI, UNITED STATES
Skrzypczynski, Zbigniew, Verona, WI, UNITED STATES
Takova, Tsetska Y., Madison, WI, UNITED STATES
Vedvik, Kevin L., Madison, WI, UNITED STATES
Lyamichev, Natalie, Madison, WI, UNITED STATES
Neri, Burce P., Madison, WI, UNITED STATES

PA Third Wave Technologies, Inc., Madison, WI, 53719 (2)

PI US 2003104378 A1 20030605

AI US 2001-864636 A1 20010524 (9)

RLI Continuation-in-part of Ser. No. US 2000-577304, filed on 24 May 2000, PENDING Continuation-in-part of Ser. No. US 1999-350309, filed on 9 Jul 1999, GRANTED, Pat. No. US 6348314 Continuation-in-part of Ser. No. US 1991-756386, filed on 9 Sep 1991, GRANTED, Pat. No. US 337472 Continuation-in-part of Ser. No. US 1995-381212, filed on 31 Jan 1995, GRANTED, Pat. No. US 5608651 Continuation-in-part of Ser. No. US 1997-823516, filed on 24 Mar 1997, GRANTED, Pat. No. US 5994069 Continuation-in-part of Ser. No. US 1996-759038, filed on 2 Dec 1996, GRANTED, Pat. No. US 6090543 Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, GRANTED, Pat. No. US 6001567 Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, GRANTED, Pat. No. US 5846717 Continuation-in-part of Ser. No. US 2000-381212, filed on 8 Feb 2000, PENDING Continuation-in-part of Ser. No. US 2001-758282, filed on 11 Jan 2001, PENDING

PRAI WO 1997-US1072 19970121

DT Utility

FS APPLICATION

LREP MEDLEN & CARROLL, LLP, 101 HOWARD STREET, SUITE 350, SAN FRANCISCO, CA, 94105

CLMN Number of Claims: 49 ECL Exemplary Claim: 1 DRWN 145 Drawing Page(s)

LN.CNT 10869

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides novel cleavage agents and polymerases for the cleavage and modification of nucleic acid. The cleavage agents and polymerases find use, for example, for the detection and characterization of nucleic acid sequences and variations in nucleic acid sequences. In some embodiments, the 5' nuclease activity of a variety of enzymes is used to cleave a target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

#### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 12 OF 26 USPATFULL on STN

AN 2003:140404 USPATFULL

TI Invasive cleavage of nucleic acids

IN Prudent, James R., Madison, WI, UNITED STATES Hall, Jeff G., Madison, WI, UNITED STATES Lyamichev, Victor I., Madison, WI, UNITED STATES Brow, Mary Ann D., Madison, WI, UNITED STATES Dahlberg, James E., Madison, WI, UNITED STATES

PI US 2003096245 A1 20030522

AI US 2001-982667 A1 20011018 (9)

RLI Continuation of Ser. No. US 1999-350309, filed on 9 Jul 1999, GRANTED, Pat. No. US 6348314 Division of Ser. No. US 1996-756386, filed on 26 Nov 1996, GRANTED, Pat. No. US 5985557 Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, GRANTED, Pat. No. US 6001567 Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996,

GRANTED, Pat. No. US 5846717

DT Utility

FS APPLICATION

LREP MEDLEN & CARROLL, LLP, 101 HOWARD STREET, SUITE 350, SAN FRANCISCO, CA,

94105

CLMN Number of Claims: 35 ECL Exemplary Claim: 26 DRWN 90 Drawing Page(s)

LN.CNT 7533

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to means for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to methods for formning a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

#### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 13 OF 26 USPATFULL on STN

AN 2003:129820 USPATFULL

TI FEN-1 endonucleases, mixtures and cleavage methods

IN Kaiser, Michael W., Madison, WI, United States Lyamichev, Victor I., Madison, WI, United States Lyamicheva, Natasha, Madison, WI, United States

PA Third Wave Technologies, Ins., Madison, WI, United States (U.S.

corporation)

PI US 6562611 B1 20030513

WO 9823774 19980604

AI US 1999-308825 19991008 (9)

WO 1997-US21783 19971126

19991008 PCT 371 date

RLI Continuation of Ser. No. US 1996-757653, filed on 29 Nov 1996, now patented, Pat. No. US 5843669 Continuation of Ser. No. US 1996-758314, filed on 2 Dec 1996, now patented, Pat. No. US 6090606

DT Utility

FS GRANTED

EXNAM Primary Examiner: Patterson, Jr., Charles L.

LREP Medlen & Carroll, LLP CLMN Number of Claims: 47 ECL Exemplary Claim: 1

DRWN 198 Drawing Figure(s); 185 Drawing Page(s)

LN.CNT 13398

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to means for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to improved cleavage means for the detection and characterization of nucleic acid sequences. Structure-specific nucleases derived from a variety of thermostable organisms are provided. These structure-specific nucleases are used to cleave target-dependent cleavage structures, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 14 OF 26 USPATFULL on STN

AN 2003:115740 USPATFULL

TI FEN-1 endonuclease, mixtures and cleavage methods

Kaiser, Michael W., Madison, WI, United States IN Lyamichev, Victor I., Madison, WI, United States Lyamicheva, Natasha, Madison, WI, United States Third Wave Technologies, Inc., Madison, WI, United States (U.S. PA corporation) US 6555357 PΙ 20030429 US 2000-684938 20001006 (9) ΑI Division of Ser. No. US 308825 Continuation of Ser. No. US 1996-757653, RLI filed on 29 Nov 1996, now patented, Pat. No. US 5843669 Continuation of Ser. No. US 1996-758314, filed on 2 Dec 1996, now patented, Pat. No. US 6090606 Utility DΤ GRANTED FS Primary Examiner: Patterson, Jr., Charles L. **EXNAM** Medlen & Carroll, LLP LREP Number of Claims: 8 CLMN Exemplary Claim: 1 ECL 219 Drawing Figure(s); 185 Drawing Page(s) DRWN LN.CNT 13235 CAS INDEXING IS AVAILABLE FOR THIS PATENT. The present invention relates to means for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to improved cleavage means for the detection and characterization of nucleic acid sequences. Structure-specific nucleases derived from a variety of thermostable organisms are provided. These structure-specific nucleases are used to cleave target-dependent cleavage structures, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof. CAS INDEXING IS AVAILABLE FOR THIS PATENT. L12 ANSWER 15 OF 26 USPATFULL on STN 2003:64675 USPATFULL ANReactions on dendrimers ΤI Neri, Bruce P., Madison, WI, UNITED STATES IN Hall, Jeff G., Madison, WI, UNITED STATES Lyamichev, Victor, Madison, WI, UNITED STATES Smith, Lloyd M., Madison, WI, UNITED STATES PΙ US 2003044796 A1 20030306 US 6692917 B2 20040217 Α1 20010827 (9) US 2001-940244 ΑI Continuation-in-part of Ser. No. US 2000-732622, filed on 8 Dec 2000, RLI PENDING Continuation-in-part of Ser. No. US 1999-350309, filed on 9 Jul 1999, GRANTED, Pat. No. US 6348314 Division of Ser. No. US 1996-756386, filed on 26 Nov 1996, GRANTED, Pat. No. US 5985557 Division of Ser. No. US 2000-381212, filed on 8 Feb 2000, PENDING A 371 of International Ser. No. WO 1998-US5809, filed on 24 Mar 1998, UNKNOWN DΤ Utility FS APPLICATION LREP David A. Casimir, MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, 94104 CLMN Number of Claims: 38 ECL Exemplary Claim: 1 210 Drawing Page(s) DRWN LN.CNT 15736

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to compositions and methods for the detection and characterization of nucleic acid sequences and variations in nucleic acid sequences. The present invention relates to methods for forming a nucleic acid cleavage structure on dendrimers and cleaving the nucleic acid cleavage structure in a site-specific manner. For example,

in some embodiments, a 5' nuclease activity from any of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 16 OF 26 USPATFULL on STN

AN 2003:17346 USPATFULL

TI Nucleic acid detection employing charged adducts

IN Brow, Mary Ann D., Madison, WI, UNITED STATES
Grotelueschen Hall, Jeff Steven, Madison, WI, UNITED STATES
Lyamichev, Victor, Madison, WI, UNITED STATES
Olive, David Michael, Madison, WI, UNITED STATES
Prudent, James Robert, Madison, WI, UNITED STATES

PI US 2003013098 A1 20030116

AI US 2002-74328 A1 20020212 (10)

RLI Continuation of Ser. No. US 1999-333145, filed on 14 Jun 1999, PENDING Continuation of Ser. No. US 1996-682853, filed on 12 Jul 1996, GRANTED, Pat. No. US 6001567 Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, GRANTED, Pat. No. US 5846717

DT Utility

FS APPLICATION

LREP MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, 94105

CLMN Number of Claims: 52 ECL Exemplary Claim: 1 DRWN 82 Drawing Page(s)

LN.CNT 7454

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to means for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to methods for forming a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. The 5' nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof. The present invention further relates to methods and devices for the separation of nucleic acid molecules based by charge.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 17 OF 26 USPATFULL on STN

AN 2002:343897 USPATFULL

TI Nucleic acid detection assays

IN Prudent, James R., UNITED STATES

Hall, Jeff G., Madison, WI, UNITED STATES
Lyamichev, Victor I., Madison, WI, UNITED STATES

D. Brow, Mary Ann, Madison, WI, UNITED STATES
Dahlberg, James E., Madison, WI, UNITED STATES

PI US 2002197623 A1 20021226

AI US 2002-81806 A1 20020222 (10)

RLI Continuation of Ser. No. US 2001-982667, filed on 18 Oct 2001, PENDING Continuation of Ser. No. US 1999-350309, filed on 9 Jul 1999, GRANTED, Pat. No. US 6348314 Division of Ser. No. US 1996-756386, filed on 26 Nov 1996, GRANTED, Pat. No. US 5985557 Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, GRANTED, Pat. No. US 6001567 Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, GRANTED, Pat. No. US 5846717

DT Utility

FS APPLICATION

LREP MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, 94105

CLMN Number of Claims: 25 ECL Exemplary Claim: 1 DRWN 90 Drawing Page(s)

LN.CNT 8311

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to means for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to methods for forming a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 18 OF 26 USPATFULL on STN

AN 2002:329806 USPATFULL

TI Invasion assays

IN Hall, Jeff G., Madison, WI, UNITED STATES
Lyamichev, Victor I., Madison, WI, UNITED STATES
Mast, Andrea L., Madison, WI, UNITED STATES
Brow, Mary Ann D., Madison, WI, UNITED STATES

PI US 2002187486 A1 20021212

AI US 2001-33297 A1 20011102 (10)

RLI Continuation of Ser. No. US 1999-350597, filed on 9 Jul 1999, PENDING Continuation of Ser. No. US 1997-823516, filed on 24 Mar 1997, GRANTED, Pat. No. US 5994069 Continuation-in-part of Ser. No. US 1996-756038, filed on 26 Nov 1996, ABANDONED Continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996, GRANTED, Pat. No. US 5985557 Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, GRANTED, Pat. No. US 6001567 Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, GRANTED, Pat. No. US 5846717

DT Utility

FS APPLICATION

LREP MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, 94105

CLMN Number of Claims: 34 ECL Exemplary Claim: 1 DRWN 121 Drawing Page(s)

LN.CNT 10560

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AΒ The present invention relates to means for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to methods for forming a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof. The present invention further relates to methods and devices for the separation of nucleic acid molecules based on charge. The present invention also provides methods for the detection of non-target cleavage products via the formation of a complete and activated protein binding region. The invention further provides sensitive and specific methods for the detection of human cytomegalovirus nucleic acid in a sample.

```
L12 ANSWER 19 OF 26 USPATFULL on STN
       2002:254176 USPATFULL
AN
       Detection of nucleic acids by multiple sequential invasive cleavages 02
ΤI
       Hall, Jeff G., Madison, WI, United States
IN
       Lyamichev, Victor I., Madison, WI, United States
       Mast, Andrea L., Madison, WI, United States
       Brow, Mary Ann D., Madison, WI, United States
       Third Wave Technologies, Inc, Madison, WI, United States (U.S.
PA
       corporation)
                               20021001
PΙ
       US 6458535
                          В1
       US 1999-350597
                              \cdot 19990709 (9)
ΑI
       Continuation of Ser. No. US 1997-823516, filed on 24 Mar 1997, now
RLI
       patented, Pat. No. US 5994069 Continuation-in-part of Ser. No. US
       1996-759038, filed on 2 Dec 1996, now patented, Pat. No. US 6090543
       Continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996,
       now patented, Pat. No. US 5085557 Continuation-in-part of Ser. No. US
       1996-682853, filed on 12 Jul 1996, now patented, Pat. No. US 6001567
       Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996,
       now patented, Pat. No. US 5846717, issued on 8 Dec 1998
DT
       Utility
FS
       GRANTED
      Primary Examiner: Jones, W. Gary; Assistant Examiner: Souaya, Jehanne
EXNAM
       Medlen & Carroll, LLP
LREP
       Number of Claims: 27
CLMN
ECL
       Exemplary Claim: 1
       170 Drawing Figure(s); 128 Drawing Page(s)
DRWN
LN.CNT 13831
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       The present invention relates to means for the detection and
AB
       characterization of nucleic acid sequences, as well as variations in
       nucleic acid sequences. The present invention also relates to methods
       for forming a nucleic acid cleavage structure on a target sequence and
       cleaving the nucleic acid cleavage structure in a site-specific manner.
       The structure-specific nuclease activity of a variety of enzymes is used
       to cleave the target-dependent cleavage structure, thereby indicating
       the presence of specific nucleic acid sequences or specific variations
       thereof. The present invention further relates to methods and devices
       for the separation of nucleic acid molecules based on charge. The
       present invention also provides methods for the detection of non-target
       cleavage products via the formation of a complete and activated protein
       binding region. The invention further provides sensitive and specific
       methods for the detection of human cytomegalovirus nucleic acid in a
       sample.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L12 ANSWER 20 OF 26 USPATFULL on STN
ΑN
       2002:34297 USPATFULL
ΤI
       Invasive cleavage of nucleic acids
       Prudent, James R., Madison, WI, United States
IN
       Hall, Jeff G., Madison, WI, United States
       Lyamichev, Victor I., Madison, WI, United States
       Brow, Mary Ann D., Madison, WI, United States
```

US 6348314 ΑI US 1999-350309 19990709 (9) RLI Division of Ser. No. US 1996-756386, filed on 29 Nov 1996, now patented, Pat. No. US 5985557 Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, now patented, Pat. No. US 6001567

Third Wave Technologies, Inc., Madison, WI, United States (U.S.

20020219

Dahlberg, James E., Madison, WI, United States

В1

PΑ

PΙ

corporation)

Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, now patented, Pat. No. US 5846717, issued on 8 Dec 1998

DT Utility FS GRANTED

EXNAM Primary Examiner: Campbell, Eggerton A.

LREP Medlen & Carroll, LLP CLMN Number of Claims: 72 ECL Exemplary Claim: 1

DRWN 118 Drawing Figure(s); 90 Drawing Page(s)

LN.CNT 8623

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to means for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to methods for forming a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 21 OF 26 USPATFULL on STN

AN 2000:91761 USPATFULL

TI Cleavage agents

IN Kaiser, Michael W., Madison, WI, United States Lyamichev, Victor I., Madison, WI, United States Lyamicheva, Natasha, Madison, WI, United States

PA Third Wave Technologies, Inc., Madison, WI, United States (U.S.

corporation)

PI US 6090606 20000718

AI US 1996-758314 19961202 (8)

RLI Continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996 which is a continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996 which is a continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, now patented, Pat. No. US 5846717 which is a continuation-in-part of Ser. No. US 1996-756376, filed on 2 Dec 1996

DT Utility

FS Granted

EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Shoemaker, Debra

LREP Medlen & Carroll, LLP CLMN Number of Claims: 24 ECL Exemplary Claim: 6

DRWN 144 Drawing Figure(s); 117 Drawing Page(s)

LN.CNT 11295

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to means for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to improved cleavage means for the detection and characterization of nucleic acid sequences. Structure-specific nucleases derived from a variety of thermostabe organisms are provided. These structure-specific nucleases are used to cleave target-dependent cleavage structures, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 22 OF 26 USPATFULL on STN

AN 2000:91698 USPATFULL

TI Cleavage of nucleic acids

Prudent, James R., Madison, WI, United States IN Hall, Jeff G., Madison, WI, United States Lyamichev, Victor I., Madison, WI, United States Brow, Mary Ann D., Madison, WI, United States Dahlberg, James E., Madison, WI, United States Third Wave Technologies, Inc., Madison, WI, United States (U.S. PΑ corporation) US 6090543 ΡI 20000718 US 1996-759038 19961202 (8) ΑI Continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996 RLI which is a continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996 which is a continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996 76 Ser. No. US 1996-758314, filed on 2 Dec 1996 DΤ Utility Granted FS Primary Examiner: Jones, W. Gary; Assistant Examiner: Shoemaker, Debra EXNAM Medlen & Carroll, LLP LREP Number of Claims: 27 CLMN ECL Exemplary Claim: 1 102 Drawing Figure(s); 117 Drawing Page(s) DRWN LN.CNT 11426 CAS INDEXING IS AVAILABLE FOR THIS PATENT. AΒ The present invention relates to means for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to methods for forming a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof. CAS INDEXING IS AVAILABLE FOR THIS PATENT. ANSWER 23 OF 26 USPATFULL on STN L121999:163423 USPATFULL. AN Detection of nucleic acid sequences by invader-directed cleavage TIIN Brow, Mary Ann D., Madison, WI, United States Hall, Jeff Steven Grotelueschen, Madison, WI, United States Lyamichev, Victor, Madison, WI, United States Olive, David Michael, Madison, WI, United States Prudent, James Robert, Madison, WI, United States PA Third Wave Technologies, Inc., CA, United States (U.S. corporation) PΙ US 6001567 19991214 ΑI US 1996-682853 19960712 (8) Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, RLI now patented, Pat. No. US 5846717 DTUtility FS Granted Primary Examiner: Arthur, Lisa B.; Assistant Examiner: Souaya, Jehanne EXNAM Medlen & Carroll, LLP LREP Number of Claims: 15 CLMN ECL Exemplary Claim: 1 66 Drawing Figure(s); 82 Drawing Page(s) DRWN LN.CNT 7836 CAS INDEXING IS AVAILABLE FOR THIS PATENT. AB The present invention relates to means for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to methods for forming a nucleic acid cleavage structure on a target sequence and

cleaving the nucleic acid cleavage structure in a site-specific manner. The 5' nuclease activity of a variety of enzymes is used to cleave the

target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof. The present invention further relates to methods and devices for the separation of nucleic acid molecules based by charge.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 24 OF 26 USPATFULL on STN

AN 1999:155453 USPATFULL

TI Detection of nucleic acids by multiple sequential invasive cleavages

IN Hall, Jeff G., Madison, WI, United States
Lyamichev, Victor I., Madison, WI, United States
Mast, Andrea L., Madison, WI, United States

Mast, Andrea L., Madison, WI, United States Brow, Mary Ann D., Madison, WI, United States

PA Third Wave Technologies, Inc., Madison, WI, United States (U.S. corporation)

PI US 5994069 19991130 AI US 1997-823516 19970324 (8)

RLI Continuation-in-part of Ser. No. WO 1997-US1072, filed on 21 Jan 1997 which is a continuation-in-part of Ser. No. US 1996-759038, filed on 2 Dec 1996 And a continuation-in-part of Ser. No. US 1996-758314, filed on 2 Dec 1996 which is a continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996 which is a continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996 which is a continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, said Ser. No. US 759038 which is a continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996

DT Utility FS Granted

EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Shoemaker, Debra

LREP Medlen & Carroll, LLP CLMN Number of Claims: 34 ECL Exemplary Claim: 1

DRWN 169 Drawing Figure(s); 128 Drawing Page(s)

LN.CNT 14892

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to means for the detection and AB characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to methods for forming a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof. The present invention further relates to methods and devices for the separation of nucleic acid molecules based on charge. The present invention also provides methods for the detection of non-target cleavage products via the formation of a complete and activated protein binding region. The invention further provides sensitive and specific methods for the detection of human cytomegalovirus nucleic acid in a sample.

## CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 25 OF 26 USPATFULL on STN

AN 1999:146257 USPATFULL

TI Invasive cleavage of nucleic acids

IN Prudent, James R., Madison, WI, United States Hall, Jeff G., Madison, WI, United States Lyamichev, Victor I., Madison, WI, United States Brow, Mary Ann D., Madison, WI, United States Dahlberg, James E., Madison, WI, United States

Third Wave Technologies, Inc., WI, United States (U.S. corporation) PΑ US 5985557 19991116 PΙ US 1996-756386 19961126 (8) ΑI Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996 RLI which is a continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, now patented, Pat. No. US 5846717 DTUtility FS Granted EXNAM Primary Examiner: Campbell, Eggerton A. Medlen & Carroll, LLP LREP Number of Claims: 20 CLMN ECL Exemplary Claim: 1 DRWN 87 Drawing Figure(s); 90 Drawing Page(s) LN.CNT 8630 CAS INDEXING IS AVAILABLE FOR THIS PATENT. The present invention relates to means for the detection and AB characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to methods for forming a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof. CAS INDEXING IS AVAILABLE FOR THIS PATENT. L12ANSWER 26 OF 26 USPATFULL on STN AN1998:154035 USPATFULL ΤI Detection of nucleic acid sequences by invader-directed cleavage IN Brow, Mary Ann D., Madison, WI, United States Hall, Jeff Steven Grotelueschen, Madison, WI, United States Lyamichev, Victor, Madison, WI, United States Olive, David Michael, Madison, WI, United States Prudent, James Robert, Madison, WI, United States Third Wave Technologies, Inc., Madison, WI, United States (U.S. PA corporation) PΙ US 5846717 19981208 ΑI US 1996-599491 19960124 (8) DT Utility FS Granted EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Shoemaker, Debra Medlen & Carroll, LLP LREP Number of Claims: 32 CLMN ECL Exemplary Claim: 1 DRWN 79 Drawing Figure(s); 54 Drawing Page(s) LN.CNT 5515 CAS INDEXING IS AVAILABLE FOR THIS PATENT. The present invention relates to means for the detection and characterization of nucleic acid sequences, as well as variations in nucleic acid sequences. The present invention also relates to methods for forming a nucleic acid cleavage structure on a target sequence and cleaving the nucleic acid cleavage structure in a site-specific manner. The 5' nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure,

thereby indicating the presence of specific nucleic acid sequences or

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

specific variations thereof.

(FILE 'HOME' ENTERED AT 14:38:17 ON 16 DEC 2004)

FILE 'BIOSIS, MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 14:39:49 ON 16 DEC 2004 L1104 S THERMOSTABLE (3A) 5(2A) NUCLEASE? L2 95 S L1 AND CLEAVAGE L3 0 S L2 AND LACK? (10A) SYNTHESIS (4A) ACTIVIT? 40 S L2 AND SYNTHESIS (10A) ACTIVIT? L440 DUP REM L4 (0 DUPLICATES REMOVED) L540 S L5 AND PROBE? L6 L7 39 S L6 AND LACK? (10A) ACTIVIT? L839 S L7 AND REGION? L9 39 S L8 AND PORTION? L10 39 S L9 AND FIRST (3A) (PROBE? OR NUCLEIC ACID? OR OLIGONUCLEOTID L11 28 S L10 AND FIRST (3A) REGION?

26 S L11 AND SECOND (3A) (PROBE? OR NUCLEIC ACID? OR OLIGONUCLEOTI

=>

L12